

**WHAT IS CLAIMED IS:**

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2 1. A pin lamination method that may eliminate pits and dents formed  
3 in a multi-layer printed wiring board, comprising the steps of:

4 (a) preparing a plurality of steel plates and coppers in a clean  
5 working room, and a plurality of prepregs and cores in a working room;

6 (b) serially laminating a first one of the coppers having a shiny  
7 surface facing upward, one of the steel plates, and a second one of the coppers  
8 having a shiny surface facing downward on a ply-up device, thereby forming a  
9 sandwiched lamination board, with the steel plate sandwiched between the first  
10 and second coppers, wherein the shiny surface of each of the first and second  
11 coppers is directed toward the steel plate; and

12 (c) conveying the sandwiched lamination board to the working room,  
13 and laminating the sandwiched lamination board, the prepregs, and the cores  
14 serially, thereby forming a multi-layer board.

15 2. The pin lamination method that may eliminate pits and dents  
16 formed in a multi-layer printed wiring board in accordance with claim 1,  
17 wherein in the step (a), each of the steel plates, the coppers, the prepregs, and  
18 the cores are pre-fabricated with multiple pin holes.

19 3. The pin lamination method that may eliminate pits and dents  
20 formed in a multi-layer printed wiring board in accordance with claim 2,  
21 wherein in the step (b), the ply-up device is provided with multiple pins, and  
22 the pin holes of the coppers and the steel plate align with the pins of the ply-up  
23 device, thereby facilitating insertion of the pins of the ply-up device.

1           4. The pin lamination method that may eliminate pits and dents  
2   formed in a multi-layer printed wiring board in accordance with claim 1,  
3   wherein in the step (c), the sandwiched lamination board, the prepregs, and the  
4   cores are mounted between two mold plates provided in the working room.

5           5. The pin lamination method that may eliminate pits and dents  
6   formed in a multi-layer printed wiring board in accordance with claim 4,  
7   wherein each of the two mold plates is provided with multiple pins, and pin  
8   holes of the sandwiched lamination board, the prepregs, and the cores align  
9   with the pins of the mold plates, thereby facilitating insertion of the pins of the  
10   mold plates.

11          6. A ply-up device for performing the pin lamination method that  
12   may eliminate pits and dents formed in a multi-layer printed wiring board in  
13   accordance with claim 1, wherein the ply-up device includes a work table, a lift  
14   rod, an inclined board, a base steel plate, and a ply-up plate, wherein:

15           the lift rod has a first end pivoted on a first side of the work table, and  
16   a second end pivoted with a first end of the inclined board which has a second  
17   end pivoted on a second side of the work table, the lift rod may be lifted and  
18   lowered for adjusting the inclined angle of the inclined board;

19           the base steel plate is secured on the inclined board; and

20           the ply-up plate is secured on the base steel plate.

21          7. The ply-up device in accordance with claim 6, wherein the base  
22   steel plate includes multiple L-shaped fixing blocks secured on the inclined  
23   board, and is provided with multiple pin holes for insertion of multiple pins.

1           8. The ply-up device in accordance with claim 7, wherein the ply-up  
2 plate includes multiple pads secured on the fixing blocks, and is provided with  
3 multiple pin holes for insertion of the multiple pins.

4           9. The ply-up device in accordance with claim 6, wherein the ply-up  
5 plate has a periphery formed with multiple openings for insertion of holders.  
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